

552,452

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
21 October 2004 (21.10.2004)

PCT

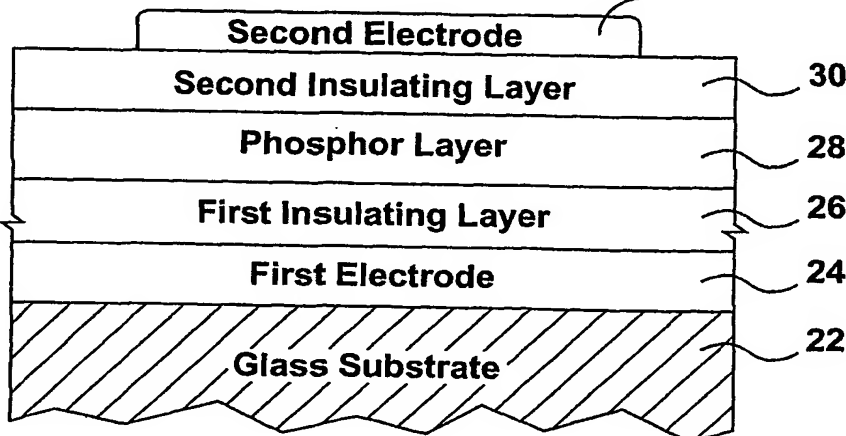
(10) International Publication Number
WO 2004/090068 A1

- (51) International Patent Classification⁷: **C09K 11/77**
- (21) International Application Number:
PCT/CA2004/000527
- (22) International Filing Date: 7 April 2004 (07.04.2004)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
60/460,395 7 April 2003 (07.04.2003) US
- (71) Applicant (for all designated States except US): **MCMAS-
TER UNIVERSITY** [CA/CA]; Office of Research Con-
tracts & IP, GH306, 1280 Main Street West, JHE 118,
Hamilton, Ontario L8S 4L8 (CA).
- (72) Inventors; and
(75) Inventors/Applicants (for US only): **KITAI, Adrian**
[CA/CA]; 1612 Birchwood Drive, Mississauga, Ontario
L5J 1T6 (CA). **JIANG, Zhimei** [CA/CA]; 610-1140 Mary
Street North, Oshawa, Ontario L1G 5H1 (CA). **COOK,
Ken** [CA/CA]; 222 Willowdale Avenue, Waterloo, Ontario
N2J 3M1 (CA).
- (74) Agent: **SCHMIDT, Ingrid, E.**; Gowling Lafleur Hender-
son LLP, Suite 560-120 King Street West, PO Box 1045,
LCD 1, Hamilton, Ontario L8N 3R4 (CA).
- (81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,
ZW.
- (84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),
Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), Euro-
pean (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR,
GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK,
TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW,
ML, MR, NE, SN, TD, TG).
- Published:**
— with international search report
— before the expiration of the time limit for amending the
claims and to be republished in the event of receipt of
amendments
- For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.

(54) Title: **EUROPIUM-DOPED GALLIUM-INDIUM OXIDES AS RED EMITTING ELECTROLUMINESCENT PHOSPHOR
MATERIALS**

20

32



(57) Abstract: New oxide phos-
phors based on gallium-indium
oxide for electroluminescent mate-
rials. Bright red emission has been
obtained using $Ga_{2-x}In_xEu_yO_3$
wherein x spans the range 0.1 to
0.4 and y spans the range in which
it is soluble in the phosphor.

WO 2004/090068 A1